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THE CAROLINE ISLANDS.

The race for possession of new territories in remote seas is at present so keen, that those who are by profession neither international lawyers nor diplomatists, are finding a subject of engrossing interest in those principles which at once stimulate the energy and restrain the cupidity of colonising nations. The latest tidings of transpontine enterprise reach us from the Western Pacific. Germany, we are told, has occupied the Caroline Islands, and has sent notification of the fact to the European powers. Spain, it is said, asserts an ancient title to the same territory, and a difference is likely to arise between the two powers about a possession which has not yet been shown to be very valuable. Now, it would be difficult, perhaps impossible, on the information which has yet reached us, to decide between the two claimants; but it may be useful to notice those rules which must govern the decision of the question if it is to be settled in accordance with international law.

The time-honoured method which explorers used to adopt in order to appropriate the land which they had discovered, was for each one to set up his national standard on the most convenient hill-top, and declare the territory to belong to the sovereign he represented. The plan had many advantages. The eager discoverer had no need to establish his power either by force of arms or by the patient aggression of colonisation; he was troubled with no nice questions as to the rights of the aboriginal inhabitants, and his sweeping declaration of ownership did not condescend to define the limits of his appropriation. But those times are past. It is now more than a hundred years since our own Lord Kames, referring to the Law of Nations, wrote: 'Symbolical possession will confer no right, either on the person who uses the symbol, or on the State whose subject he is. To acquire the property and to exclude others, there must be real occupation.' This rule, which was then new, has now acquired the respectability of age, and it is at length universally recognised that to confer a good title, both the intention to possess and the actual possession must be proved. It is obvious that the adoption of such a principle must go far to simplify questions of ownership between rival nations, and how dangerous these may be, any one can realise who is old enough to remember what was once known as the 'Oregon Question.' It will be observed that such a rule unceremoniously cuts down any claims founded on mere paper titles; and an old writer says, that navigators pay no more attention to a monument erected as evidence of possession, than they do to 'the regulation of the Popes who divided a great part of the world between the crowns of Castile and Portugal'—an observation which is curiously in point at present, when we learn that the Spanish claim rests, in part at least, upon the famous bull issued by Pope Alexander VI. in the year 1493. This celebrated document has often before been used to check the enterprise of roving mariners; indeed, it was once cited as an objection against the acquisitive voyages of our own Drake; but on that occasion Queen Elizabeth plainly told the Spanish Ambassador that 'she did not acknowledge the Spaniards to have any title by donation of the Bishop of Rome, so she knew no right they had to any places other than those they were in actual possession of.' Her Majesty's shrewdness had anticipated the reasoning of international jurists. In point of fact, no weight now attaches to royal letters-patent, or charters professing to make a grant of new territory, unless they are followed within a reasonable time by actual occupation; and this gives occasion to the inquiry, 'What is proper occupation?' Strictly speaking, occupation can only be complete when the country is placed at the disposal of the occupying state, and this of course is best achieved when her colonists have settled themselves over the whole area. But how seldom this is accomplished, let the history of our own colonies attest.

In many cases, the size of the territory and the number of the settlers make such acquisition an impossibility; and then arise doubts as to boundaries. When Charles II. made grants of land in North America, the limits landward were not defined, and it was suggested that these grants might carry a right to territory straight across the continent to the Pacific. But the rule which is now acknowledged to apply to such cases is, that occupation of a tract of land on the sea-coast gives a title to all the country landward as far as the watershed line. The circumstances of the case before us, however, are not likely to cause any difficulty as to boundaries. In all probability, no one of the islands which form the Caroline group is large enough to admit of a divided ownership; and in that case, the question between Germany and Spain as to each individual island will be decided wholly in favour of one of them, in accordance with that principle which declares that not only all the territory actually possessed by a settlement shall belong to it, but also all that in the hands of another power would be a menace to its security. For it is obvious that Spain could have but a precarious possession of the west side of an island of five-and-twenty square miles in extent, if Germany on the east side held a fort and coaling station. Yet it by no means follows that the whole archipelago must acknowledge the supremacy of the same state; for one of the three groups into which the islands are naturally divided, may be found to belong to one power, while the other claimant may successfully establish her right to the remaining two.

Discovery, then, is but an incomplete title unless it is followed up by Possession; but when so fortified, it will unquestionably extinguish every other claim. Now, the honour of discovering these scattered islands appears to rest with neither of the rival states, but with Portugal, by whom they were discovered in 1525; though as to the traders who are settled in them, Spain and Germany seem pretty equally divided. The proof, in short, in favour of one claimant's actual possession nearly balances that in favour of the other, and we are thrown back upon the effort to find some actings of one of the parties which shall establish at least an intention to possess; and if the whole matter should ultimately be submitted to arbitration, it is to this point that the arguments of the suitors will be mainly addressed. Germany will, of course, cite the definite act of appropriation which has at this moment raised the question of ownership, and will be able to show that notification of that act was duly given to the powers. Spain will point to her mission-work in the islands, to the announcement made in the last Cortes that she was about to appoint a special governor over them, and perhaps also to the fact that that officer had actually set out for his destination before information of the German action was received at Madrid.

But it may be objected that, amid this balancing of pretensions, the rights of the original inhabitants have been wholly ignored. Are the native Malays, who are reputed the hardiest and most skilful sailors of Polynesia, expected to acquiesce without a murmur in the assumption of sovereignty over their land by some European state, which has found there a fulcrum for trade, and a mine of archæological wealth? The answer is, that no single nation is entitled to shut out another; and if the settlers of that other acquire importance by virtue of their trading energy and their skill in the arts, then annexation ought to be effected in the interests of the natives themselves, because, as a consequence of that public act, they will be protected in the peaceful possession of their lands—a right which they could not vindicate for themselves.

These, then, are the cardinal principles which must be applied to any proof which may be adduced by either power in support of her claim to these far-away islands. It is only by a process of very carefully weighing the two masses of evidence, that a determination can be reached which will coincide with the facts of the case; and unless such a coincidence is attained, a substantial injustice will be done.

According to a contemporary, only five of the islands are of a mountainous character and apparently of remote volcanic origin; by far the greater number are flat coral islands. The vegetation is particularly rich and luxurious, if the variety of species is not great. The mountains are clad with trees to their summits. The character of the vegetation is pretty much that of other Pacific islands, approaching in the western islands to that of the Philippines and Moluccas. Ferns are found in extraordinary abundance, as are palms of various species (cocoa, areca, nipa and sago palms), and also pandanus. Round the coasts are generally thick fringes of mangroves, followed by various fruit-trees, and further up the hills, mountain forests, among which various species of ficus are prominent, mixed with artocarpus, myristica, citrus, eugenia, crateva, &c. The fauna of the islands is not rich, and, except birds, probably of no commercial importance. The climate of the islands is essentially tropical, but without tropical regularity. It is prevailingly moist. There does not seem to be any regular rainy period. The eastern and central islands especially are liable to violent rain-storms; yet on the whole the climate is agreeable, and, away from the coast, healthy. The people themselves evidently belong to the same well-formed, brown, comparatively intelligent Pacific race as the Hawaiians and New Zealanders, and, like them, alas, have suffered much in numbers, in physique, and in morals by contact with a certain class of whites. The total population, even including the Pellew Islands (which some regard as a separate group), does not probably exceed twenty thousand. The archipelago is naturally divided into three groups, east, central and west, which, according to some authorities, correspond to political divisions, each group being under the general dominion of one chief, who has his residence in the centre. The Caroline natives are great traders both among themselves and with Europeans. At present the principal articles bartered with Europeans for iron goods, tobacco, spirits, bottles, &c., are trepang and cocoa-nut oil. Europeans are settled in several of the islands, mainly Ponape and Yap, and do considerable business with whalers.

We may add that hitherto these islands have not been regarded as being important, for they lie far out of the track of the great ocean highways. They are chiefly interesting from an archæological point of view, for they possess some remarkable ruins of what must once have been magnificent buildings. Some of the stones employed by these early architects are said to measure thirty-five feet long, and twenty feet broad by fifteen feet in thickness. The rude sculptures which are found there bear close resemblance to those of Easter Island, which, however, is six thousand miles away. The purpose and origin of these monuments are quite unknown.

A HOUSE DIVIDED AGAINST ITSELF.

CHAPTER XXXVIII.

NEXT morning, Constance, seated as usual in the loggia, which was now, as the weather grew hot, veiled with an awning, heard, her ears being very quick and on the alert for every sound, a tinkle of the bell, a sound of admittance, the step of Domenico leading some visitor to the place in which she sat. Was it *he*, coming yet again, to implore her pardon, an extension of privileges, a hope for the future? She made out instantaneously, however, that the footstep which followed Domenico was not that of young Gaunt. It was softer, less decided, an indefinite female step. She sat up in her chair and listened, letting her book fall, and next moment saw Mrs Gaunt, old-fashioned, unassured, with a troubled look upon her face, in her shawl and big hat, come out almost timidly upon the loggia. Constance sprang to her feet—then in a moment collapsed and shrank away into herself. Before the young lover, she was a queen, and to her father she preserved her dignity very well; but when *his* mother appeared, the girl had no longer any power to hold up her head. Mrs Gaunt was old, very badly dressed, not very clever or wise. But Constance felt those mild, somewhat dull eyes penetrating to the depths of her own guilty heart.

'How do you do, Miss Waring?' said Mrs Gaunt stiffly. (She had called her 'my dear' yesterday, and had been so anxious to please her, doing everything she could to ingratiate herself.) 'I hope I do not disturb you so early; but my son, Captain Gaunt, is going away'——

'O yes—I heard. I am very sorry,' the guilty Constance murmured, hanging her head.

'I do not know that there is any cause to be sorry; we were going anyhow in a few days. And in London, my son will find many friends.'

'I mean,' said Constance, drawing a long breath, beginning to recover a little courage, feeling, even in her discomfiture, a faint amusement still—'I mean, for his friends here, who will miss him so much.'

Mrs Gaunt darted a glance at her, half wrathful, half wavering. It had seemed so unnatural to her that any girl could play with or resist her son. Perhaps, after all, he had misunderstood Constance. She said proudly: 'His friends always miss George; he is so friendly. Nobody ever asks anything from him, to take any trouble or make any sacrifice, in vain.'

'I am sure he is very good,' said Constance, tremulous, yet waking to the sense of humour underneath.

'That is why I am here to-day,' said Mrs Gaunt. 'My son—remembers—though perhaps you will allow he has not much call to do so, Miss Waring—that you said something about a parcel for Frances.—Dear Frances; he will see her—that will always be something.'

'Then he is not coming to say good-bye?' she said, opening her eyes with a semblance of innocent and regretful surprise.

'Oh, Miss Waring! oh, Constance!' cried the poor mother. 'But perhaps my boy has made a mistake. He is very wretched. I am sure he never closed his eyes all last night. If you saw him this morning, it would go to your heart. Ah, my dear, he thinks you will have nothing to say to him, and his heart is broken. If you will only let me tell him that he has made a mistake!'

'Is it about me, Mrs Gaunt?'

'Oh, Constance! who should it be about but you? He has never looked at any one else since he saw you first. All that has been in his mind has been how to see you, how to talk to you, to make himself agreeable if he could—to try and get your favour. I will not conceal anything from you. I never was satisfied from the first. I thought you were too grand, too much used to fine people and their ways, ever to look at one of us. But then, when I saw my George, the flower of my flock, with nothing in his mind but how to please you, his eyes following you wherever you went, as if there was not another in the world'——

'There was not another in Bordighera, at least,' said Constance, under her breath.

'There was not?—What did you say—what did you say? Oh, there was nobody that he ever wasted a thought on but you. I had my doubts all the time. I used to say: "George dear, don't go too far; don't throw everything at her feet, till you know." But I might as well have talked to the sea. If he had been the king of all the world, he would have poured everything into your lap. Oh, my dear, a man's true love is a great thing; it is more than crowns or queen's jewels. You might have all the world contains, and beside that it would be as nothing—and this is what he has given you. Surely, you did not understand him when he spoke, or he did not understand you. Perhaps you were taken by surprise—fluttered, as girls will be, and said the wrong words. Or you were shy. Or you did not know your own mind. Oh, Constance, say it was a mistake, and give me a word of comfort to take to my boy!'

The tears were running down the poor mother's cheeks as she pleaded thus for her son. When she had left home that morning, after surprising, divining the secret, which he had done his best to hide from her overnight, there had been a double purpose in Mrs Gaunt's mind. She had intended to pour out such vials of wrath upon the girl who had scorned her son, such floods of righteous indignation, that never, never should she raise her head again; and she had intended to watch her opportunity, to plead on her knees,

if need were, if there was any hope of getting him what he wanted. It did not disturb her that these two intentions were totally opposed to each other. And she had easily been beguiled into thinking that there was good hope still.

While she spoke, Constance on her side had been going through a series of observations, running comments upon this address, which did not move her very much. 'If he had been king of all the world—ah, that would have made a difference,' she said to herself; and it was all she could do to refrain from bursting forth in derisive laughter at the suggestion that she herself had perhaps been shy, or had not known her own mind. To think that any woman could be such a simpleton, so easily deceived! The question was, whether to be gentle with the delusion, and spare Mrs Gaunt's feelings; or whether to strike her down at once with indignation and sharp scorn. There passed through the mind of Constance a rapid calculation, that in so small a community it was better not to make an enemy, and also perhaps some softening reflections from the remorse which really had touched her last night. So that when Mrs Gaunt ended by that fervent prayer, her knees trembling with the half intention of falling upon them, her voice faltering, her tears flowing, Constance allowed herself to be touched with responsive emotion. She put out both her hands and cried: 'Oh, don't speak like that to me; oh, don't look at me so! Dear, dear Mrs Gaunt, teach me what to do to make up for it! for I never thought it would come to this. I never imagined that he, who deserves so much better, would trouble himself about me. Oh, what a wretched creature I am to bring trouble everywhere! for I am not free. Don't you know I am—engaged to some one else? Oh, I thought everybody knew of it. I am not free.'

'Not free!' said Mrs Gaunt with a cry of dismay.

'Oh, didn't you know of it?' said Constance. 'I thought everybody knew. It has been settled for a long time—since I was quite a child.'

'My dear,' said Mrs Gaunt solemnly, 'if your heart is not in it, you ought not to go on with it. I did hear something of—a gentleman, whom your mamma wished you to marry; who was very rich, and all that.'

Constance nodded her head slowly, in a somewhat melancholy assent.

'But I was told that you did not wish it yourself—that you had broken it off—that you had come here to avoid—— Oh, my dear girl, don't take up a false sense of duty, or—or honour—or self-sacrifice! Constance, you may have a right to sacrifice yourself, but not another—not another, dear. And all his happiness is wrapped up in you. And if it is a thing your heart does not go with!' cried the poor lady, losing herself in the complication of phrases. Constance only shook her head.

'Dear Mrs Gaunt! I *must* think of honour and duty. What would become of us all if we put an engagement aside, because—because——? And it would be cruel to the other; he is not strong. I could not, oh, I could not break off—O no, not for worlds—it would kill him. But will you try and persuade Captain Gaunt not to think hardly of me? I thought I might enjoy his friendship without any harm. If I have done wrong, oh, forgive me!' Constance cried.

Mrs Gaunt dried her eyes. She was a simple-minded woman, who knew what she wanted, and whose instinct taught her to refuse a stone when it was offered to her instead of bread. She said: 'He will forgive you, Miss Waring; he will not think hardly of you, you may be sure. They are too infatuated to do that, when a girl like you takes the trouble to—— But I think you might have thought twice before you did it, knowing what you tell me now. A young man fresh from India, where he has been working hard for years—coming home to get up his strength, to enjoy himself a little, to make up for all his long time away—— And because you are a little lonely, and want to enjoy his—friendship, as you say, you go and spoil his holiday for him, make it all wretched, and make even his poor mother wish that he had never come home at all. And you think it will all be made up if you say you are sorry at the end! To him, perhaps, poor foolish boy; but oh, not to me.'

Constance made no reply to this. She had done her best, and for a moment she thought she had succeeded; but she had always been aware, by instinct, that the mother was less easy to beguile than the son; and she was silent, attempting no further self-defence.

'Young men are a mystery to me,' said Mrs Gaunt, standing with agitated firmness in the middle of the loggia, taking no notice of the chair which had been offered her. She did not even look at Constance, but directed her remarks to the swaying palms in the foreground and the hills behind—'they are a mystery! There may be one under their very eyes that is as good as gold and as true as steel, and they will never so much as look at her. And there will be another that thinks of nothing but amusing herself, and that is the one they will adore. Oh, it is not for the first time now that I have found it out! I had my misgivings from the very first; but he was like all the rest—he would not hear a word from his mother; and now I am sure I wish his furlough was at an end; I wish he had never come home. His father and I would rather have waited on and pined for him, or even made up our minds to die without seeing him, rather than he should have come here to break his heart.'

She paused a moment and then resumed again, turning from the palms and distant peaks to concentrate a look of fire upon Constance, who sat sunk in her wicker chair, turning her head away.

'And if a man were to go astray after being used like that, whose fault would it be? If he were to go wrong—if he were to lose heart, to say What's the good? whose fault would it be? Oh, don't tell me that you didn't know what you were doing, that you didn't mean to break his heart! Did you think he had no heart at all? But then, why should you have taken the trouble? It wouldn't have amused you, it would have been no fun, had he had no heart.'

'You seem,' said Constance, without turning her head, launching a stray arrow in self-defence, 'to know all about it, Mrs Gaunt.'

'Perhaps I do know all about it; I am a woman myself. I wasn't always old and faded. I know there are some things a girl may do in innocence, and some—that no one but a wicked woman of the world—— Oh, you are young to be called such a name. I oughtn't, at your age, however I may suffer by you, to call you such a name.'

'You may call me what name you like. Fortunately, I have not to look to you as my judge. Look here,' cried Constance, springing to her feet. 'You say you are a woman yourself. I am not like Frances, a girl that knew nothing. If your son is at my feet, I have had better men at my feet, richer men, far better matches than Captain Gaunt. Would any one in their senses expect *me* to marry a poor soldier, to go out to India, to follow the regiment? You forget I'm Lady Markham's daughter as well as Mr Waring's. Put yourself in her place for a moment, and think what you would say if your daughter told you that was what she was going to do. To marry a poor man, not even at home, an officer in India! What would you say? You would lock me up in my room, and keep me on bread and water. You would say the girl is mad. At least, that is what my mother, if she could, would do.'

Mrs Gaunt caught upon the point which was most salient and attackable. 'An Indian officer!' she cried. 'That shows how little you know. There were men in the Company's service that—— The Company's service was—— How dare you speak so to me? General Gaunt was in the Company's service,' she cried with an outburst of injured feeling and excited pride.

To this Constance made reply with a mocking laugh, which nearly drove her adversary frantic, and resumed her seat, having said what she had to say.

Poor Mrs Gaunt sat down, too, in sheer disability to support herself. Her limbs trembled under her. She wanted to cry, but would not, had she died in that act of self-restraint. And as she could not have said another word without crying, force was upon her to keep silence, though her heart burned. After an interval, she said tremulously: 'If this is one of our punishments for Eve's fault, it's far, far harder to bear than the other; and every woman has to bear it more or less. To see a man that ought to make one woman's happiness, turned into a jest by another woman, and made a laughing-stock of, and all his innocent pleasure turned into bitterness. Why did you do it? Were there not plenty of men in the world, that you should take my boy for your plaything? Wasn't there room for you in London, that you should come here? Oh, what possessed you to come here, where no one wanted you, and spoil all?'

Constance turned round and stared at her accuser with troubled eyes. It was a question to which it was difficult to give any answer; and she could not deny that it was a very pertinent question. No one had wanted her. There had been room for her in London, and a recognised place, and everything a girl could desire. Oh, how she desired now those things which belonged to her, which she had left so lightly, which there was nothing here to replace! Why had she left them? If a wish could have taken her back, out of this foreign, alien, unloved scene, away from Mrs Gaunt, scolding her in the big hat and shawl, which would be only fit for a charade at home, to Lady Markham's soft and lovely presence—to Claude, even poor Claude, with his beautiful eyes and his fear of draughts—how swiftly would she have travelled through the air! But a wish would not do it; and she could only stare at her assailant blankly, and in her heart echo the question, Why, oh, why?

Notwithstanding this stormy interview, Constance had so far recovered by the afternoon, and was so utterly destitute of anything else by way of amusement, that she walked down to the railway station at the hour when the train started for Marseilles and England, with a perfectly composed and smiling countenance, and the little parcel for Frances under her arm. Mrs Gaunt was like a woman turned to stone when she suddenly saw this apparition, standing upon the platform, talking to her old general, amusing and occupying him so that he almost forgot that he was here on no joyful, but a melancholy occasion. And to see George hurry forward, his dark face lit up with a sudden glow, his hat in his hand, as if he were about to address the Queen! These are things which are very hard upon women, to whom it is generally given to preserve their senses even when the most seductive siren smiles.

'You would not come to say good-bye to me, so I had to take it into my own hands,' Constance said in her clear young voice, which was to be heard quite distinctly through all the jabber of the Riviera functionaries. 'And here is the little parcel for Frances, if you will be so very good. *Do* go and see them, Captain Gaunt.'

'Of course he will go and see them,' said the general—'too glad. He has not so many people to see in town, that he should forget our old friend Waring's near connections, and Frances, whom we were all so fond of. And you may be sure he will be honoured by any commissions you will give him.'

'Oh, I have no commissions. Markham does my commissions, when I have any. He is the best of brothers in that respect.—Give my love to mamma, Captain Gaunt. She will like to see some one who has seen me. Tell her I get on—pretty well. Tell them all to come out here.'

'He must not do that, Miss Waring; for it will soon be too hot, and we are all going away.'

'Oh, I was not in earnest,' said Constance; 'it was only a little jest. I must look too sincere for anything, for people are always taking my little jokes as if I meant them, every word.' She raised her eyes to Captain Gaunt as she spoke, and with one steady look made an end in a moment of all the hasty hopes that had sprung up again in less time than Jonah's gourd. She put the parcel in his charge, and shook hands with him, taking no notice of his sudden change of countenance. And not only this, but waited a little way off till the poor young fellow had got into the train and had been taken farewell of by his parents. Then she waved her hand and a little film of a pocket-handkerchief, and waited till the old pair came out, Mrs Gaunt with very red eyes, and even the general blowing his nose unnecessarily.

'It seems only the other day that we came down to meet him—after not seeing him for so many years.'

'O my poor boy! But I should not mind if I thought he had got any good out of his holiday,' said Mrs Gaunt, launching a burning look among her tears at the siren.

'Oh, I think he has enjoyed himself, Mrs Gaunt. I am sure you need not have any burden on your mind on that account,' the young deceiver said smoothly.

Yes, he had enjoyed himself; and now had to pay the price of it in disappointment and ineffectual misery. This was all it had brought him, this brief intoxicating dream, this fool's paradise. Constance walked with them as far as their way lay together, and 'talked very nicely,' as he said afterwards, to the general; but Mrs Gaunt, if she could have done it with a wish, would have willingly pitched this siren, where other sirens belong to—into the sea.

(To be continued.)

HOW TO CLEAN A BOOK WITHOUT INJURY.

An adept in the art of washing or cleansing dirty books sends to the *Publishers' Circular* a few plain directions to be followed by those who wish to cleanse their soiled volumes. The amateur book-cleaner had better begin to practise on some worthless volume, until he acquires the necessary skill. All traces of lime, acid, &c., used in the cleaning process must be removed from the book, else in time it may be completely destroyed.

The first thing to be done in a book that wants washing is to cut the stitches and separate the work into sheets. Then a glance may be taken for the separation of those leaves, or sheets, which are dirty from those which have stains of ink or oil. The dirty leaves are now placed in a bath composed of a quarter of a pound of chloride of lime and the same quantity of soda to about a quart of water. These are left to soak until the paper has regained its proper tint. The pages are now lifted out tenderly into a second bath of cold, and if possible running, water, where they are left at least six hours. This removes all traces of lime. The paper, when thoroughly dried by exposure, must be dipped into a third bath of size and water, and again laid out to dry. This restores the consistency of the paper. Pressure between printers' glazed boards will then restore smoothness to the leaves.

The toning of the washed leaves in accordance with the rest of the book is a delicate process, which requires some experience. Some shag tobacco steeped in hot water will usually give the necessary colouring matter, and a bath in this liquid the necessary tone.

The process described above may do for water-stains; but if the pages are dirtied by grease, oil, coffee, candle-droppings, or ink, different treatment will be required. Dilute spirit of salt with five times its bulk of water, and let the oil-stained pages lie in the liquid for *four minutes*—not longer; then remove and wash, as before, in cold water. To remove ink, a solution of oxalic, citric, or tartaric acid should be used, but care must be taken in the washing and sizing. If the grease is a spot in the middle of a page, place between two sheets of blotting-paper, or cover it with powdered French chalk (the blotting-paper is preferable), and pass a hot iron over the place. This will melt the grease, which is immediately soaked up by the chalk or paper.

For dirty finger-marks, the following is recommended: Cover the mark with a piece of clean yellow soap for two or three hours, then wash with a sponge and hot water, and dip the page in weak acid and water. Give another bath of hot water, and then thoroughly cleanse with cold water.

To remove ink-stains: Dip the page in a strong solution of oxalic acid, then in a solution of one part hydrochloric acid and six parts of water, after which, bathe in cold water and allow to dry slowly. Vellum covers which require cleaning may be made almost equal to new by washing with weak salts of lemon; or if not much soiled, warm soap and water. Grease may be removed from the covers of bound books by scraping a little pipeclay, French chalk, or magnesia over the place, and then ironing with an iron not too hot, else it will discolour the leather.

DUNLEAP TOWER.

A STORY IN FOUR CHAPTERS.—CONCLUSION.

I soon came to the conclusion that Catherine was still shut up in the upper story of the old tower, my dungeon being the lowest in the tier, and there being, as I afterwards discovered, a couple of empty rooms between us, because, when Aaron came to see me, I frequently heard a female voice talking to him, followed by a quick patter of footsteps on the stairs leading to the upper floor. At other times I would hear the outer door unlocked, then an adjuration to a dog to await its mistress's return, and after that, the footsteps on the stairs. Doubtless, it was Ann Starke whom I heard, whose duty it was to attend to the wants of Mrs Rudyard. Poor Catherine! if my case was a hard one, what was it compared with hers! Her confinement had already lasted several weeks longer than mine; for her there was but little prospect of release, but slight hope of future happiness to sustain her, and soften in some measure the bitterness of her imprisonment. She knew that her husband desired her death, and that, unless she could escape from him, he would not rest satisfied till, by fair means or foul, he had compassed that end.

I sometimes asked myself whether it was not all a horrible dream, whether such things could indeed take place in the heart of England in the middle of the nineteenth century, in the days of railways and telegraphs. Such events might well have happened three hundred years ago, and have seemed a not unnatural result of those days of cruelty and wrong. And yet, what need was there to wonder when every month of our lives the newspapers bring before us cases equally as romantic and improbable. But it would not do to let my thoughts dwell too frequently on such subjects, otherwise I should soon have become as mad in reality as Rudyard,

for his own purposes, now assumed me to be. Catherine and I were too far removed from each other, and the walls of our dungeons were too thick, to allow any sound of our voices to penetrate from one to the other; and Aaron, when I one day asked him a question respecting her, only shook his head and refused to reply at all. My only consolation, therefore, was to listen daily for the voice or footstep of Ann Starke; for I judged that, so long as her visits lasted, Catherine must still be there, under the same roof with me, and consequently still alive.

One day, to my surprise, the footsteps on coming down from the upper story did not pass out of the door as usual, but descended the flight of steps leading to my dungeon, and presently I saw the green, cat-like eyes of Ann Starke staring at me through the grating in the door.

'How do you like being shut up here?' she asked abruptly, after a long steady gaze, which took in both myself and my surroundings.

'Not at all,' I replied; 'and if you can in any way help me to escape, I shall be grateful to you for ever.'

'You mustn't talk in that way,' she said, 'or else I must leave you. My uncle would be ready to strangle me if he thought I as much as spoke to you; for he has a terrible temper of his own, for all he looks so good-natured.—Dull here, isn't it?'

'Very,' I replied sadly—'more dull and dreary than you can imagine.'

'It's dull work, too, up there at the cottage. Hardly a fresh face to see from one month to another, and only my few books and my work to keep me alive.—But see; I've brought you an old newspaper to read, only you must hide it under your bed, and not let my uncle know that you've got it, and I'll try and bring you another in a day or two.'

I protest I could not help it, but that little act of kindness quite unmanned me, and it was a minute or two before I could find words to thank her. 'Do me one more kindness,' I said at last; 'tell me how the lady is whom you come here every day to see. Is she well? How does she bear her imprisonment?'

'Ah, you loved her once on a time, I suppose, and you can't forget her. She isn't well, and she isn't ill; she's low and melancholy, and hardly ever speaks, and never smiles. They say she's mad at times, poor lady, but that I know nothing about. But you mustn't ask me any more about her; for my uncle would be the death of me if he knew I had mentioned her name.'

Ann came again the following day, and for many days after that, sometimes staying with me but a few minutes, sometimes half an hour, bringing me now and then a book or a newspaper; and though she would not talk with me about Catherine, I insensibly came to look forward to her visits as to the one bright spot in the dull round of hours which marked the days and nights of my imprisonment; and if by any chance I missed seeing her for a day, I was more despondent and melancholy than ever, and a darker shadow than usual rested on the hours that intervened till I saw her again.

'Tell me,' I said to her one day, 'how is it that you and your uncle remain in the service of a man like Mr Rudyard—one whom both of you must heartily despise?'

'Hush!' she said with a frightened look. 'What words are you saying? But I'll whisper it to you. We stay here because it's uncle's wish, and uncle knows what he's about. When the smash comes up there,' nodding her head in the direction of the house, 'and come it must before long, then they'll find out who's master of Dunleap Tower and all the land about it. We are servants now; but it won't be so for ever; and we come, my uncle and I, of as good blood as the Rudyards or any other family in the neighbourhood. But for the last hundred years the Starkes have been sinking lower and lower; but uncle will lift the family up again, and we shall have houses and land of our own.'

The little window which lighted my dungeon was, as before stated, high up in the wall, and was just level with the ground outside. It was evidently of a date long subsequent to that of the tower itself. I had not been shut up more than a couple of days before I became possessed with a strong desire to reach it by some means or other, and gaze on what small portion of the world might be visible through it. My only table was too old and rickety to allow of my venturing myself upon it; but later on, when I had in some measure regained my strength, I found that I could drag my bedstead out of its corner, and that, by standing on the board at its head, my eyes were just on a level with the window. I could then open the casement; and there was nothing but the three iron bars to impede my view, which ranged over the sloping sweep of moorland on which the tower was built till it reached the jagged sky-line, where the clouds seemed to come down and touch the moors; but I knew that between them lay the sea, whose voice reached me more or less loudly as the weather was rough or calm. I passed several hours of each day at the window, drinking in the silent beauty of the scene; while now and then the lowing of cattle, the bark of a dog, or the crowing of a cock, came to me from the distance, like sounds from a lost world, and with a familiar music in their tones which I had never recognised before. When tired of gazing through the window, I was obliged to fall back upon the very limited range of amusements and occupations which were all I had to keep me from going melancholy mad. In the way of bodily exercise, I always walked three or four hours a day from end to end of my dungeon. All the poetry and all the dramatic excerpts that I could remember were repeated aloud times without number; and when that occupation grew stale, I tried my own powers of rhyming, and during the course of my imprisonment, I strung together some hundreds of verses, nearly all of them of a nonsensical and burlesque character, for the more ridiculous they were, the better I was pleased, my thoughts being sad and serious enough at other times.

The tedium of my captivity was considerably lightened after Ann Starke began to visit me; and then, how welcome to me was a country newspaper a week old! and what a strange feeling came over me sometimes, as I read in my

lonely cell of the doings of the great world outside, from which—so difficult is it for the mind to measure accurately the duration of time past—I seemed to have been separated for long years. Had I not been born in a dungeon and bred in a dungeon, and did I not know it for the first time; and did my memory hold any recollection of real events, or of nothing more than a wild jumble of lunatic dreams? Ah me! how many long, bitter, and melancholy hours I passed lying on my pallet when the day was dying, and the gray shades of evening filled alike the dungeon and my mind with grim unrealities and ugly phantoms—when brain and body were wearied out—when existence itself seemed stale, weary, and unprofitable, and the grave no more than a pleasant refuge!

As I lay thus one evening watching the shadows darken in the opposite corners of my dungeon, I seemed to feel the bed move under me, and next moment there waddled forth from beneath it the figure of a veritable Chinese mandarin about two feet high, attired *en grande tenue*, with a pigtail which reached nearly to the floor. I rubbed my eyes and looked again, just in time to see this singular creature take a sudden spring and alight on the middle of the table, where, crossing its legs and squatting down after the eastern fashion, it turned upon me a pair of stony eyes, and began slowly to wag its head at me, as I had sometimes seen the Chinese images do in the windows of the teashops. It was a slow, grave, measured nod, always timing itself accurately between each repetition. I, of course, set the figure down as what it really was—an optical delusion, and at once proceeded to fling my boot at it, but without producing the slightest derangement of its centre of gravity. Fixing my eyes steadily on it, I then slowly approached it. As I advanced, it lost by degrees its clearness of outline and roundness of form, and slowly merged itself into the shadows of the advancing night, so that when I reached the table, nothing of it remained visible; but as I receded from the table, so did it seem to project itself out of the dusk, till by the time I reached the opposite end of my prison it was there again, gravely wagging its head at me as before, and apparently as much alive and as much a thing of substance as myself. Night after night it came, always at the gloaming hour, so that after a time I became so accustomed to its presence as to take but little notice of it, although for the first few evenings that interminable nodding of its head annoyed me greatly, inducing in me an intense desire to count the number of nods, which it required all my strength of mind to resist.

But this apparition of the mandarin was not the only mental hallucination to which I became subject during my incarceration. Waking suddenly sometimes in the dull, dead middle of the night, I heard strange, wild bursts of laughter coming now from one corner of my dungeon and now from another; sometimes fiendish and discordant in character, at others low, silvery, and gracious as the laughter of ladies and young children. Then there would be strange whisperings and mutterings around my bed in some language unknown to me; and then the unearthly chorus of laughter would recommence, lasting with short intervals till the first streak of dawn broke the charm, and brought with it peace and slumber unbroken. Was the dread shadow of madness beginning in reality to brood over me? In fear and trembling, I asked myself the question. If such were some of the effects produced by solitude and imprisonment on a strong man like me, what must be their effects upon the far more delicate organisation of Catherine! I trembled to think.

Rudyard had not visited me for some days, when late one afternoon I heard him speaking above; and presently he came down the steps leading to my dungeon, attended by Ann Starke with the keys. Ann having unlocked the door, Rudyard entered; she followed him and closed the door behind her, stationing herself close to it and holding the bunch of keys in her hand. Her face was paler than I had ever seen it before, and there was a cold, stern, revengeful glitter in her green eyes which boded no good to somebody. I was sitting in my chair near the window, and neither spoke nor stirred when Rudyard entered. He came forward with an insolent smile on his lips, and was evidently half drunk; he was smoking a cigar, and carried in one hand a formidable life-preserver, while from the folds of his waistcoat there protruded the butt-end of a pistol.

'Well, Master Gallowsbird, and how are you by this time?' he asked in thick husky tones. 'Not dead yet; but as mad as ever, I see. A dangerous lunatic, that's what you are—dangerous to the community, and that's why I keep you shut up here, out of pure charity to my fellow-creatures. Ah, this old tower is a nice spot to keep lunatics in—snug and quiet. No fear of any country-folk prowling about it: the fools all believe it's haunted, and wouldn't set foot near it for a bag of sovereigns. There's you here, and that white-faced cat up-stairs—I know not which is the madder of the two!'

Before he could utter another word, I had sprung from my seat and gripped him savagely by the throat. It was a momentary impulse, acted on without premeditation or forethought. I was weakened by my long confinement; but I seemed to have been suddenly endowed with a strength not my own, and though Rudyard was a big, powerful man, he quivered like a plaything in my grasp. Perhaps he saw in my eyes the madness which burned in my heart, for he quailed, and turned yellow with fear beneath the grip of my fingers. 'Liar and scoundrel!' I exclaimed; and holding him firmly with my left hand, with my right I rained on his head and face such a shower of blows as he would bear the traces of for many a day to come. He was paralysed by the suddenness of my attack; and before he could make use of his life-preserver, it was wrested from his hand and he himself flung back, a bruised and bleeding mass, to the other end of the dungeon, where Ann Starke, as cool and impassive as a statue, was still standing. Rudyard slowly gathered himself up, like a man who can hardly believe the evidence of his senses; but suddenly his face lighted up with a diabolical smile; he remembered the pistol which he carried. It was out of his vest and pointed full at me before I was aware of his intention; but Ann's quick eye had noted the

action, and at the moment he pulled the trigger, she struck up his arm, and the bullet passing over my head, flattened itself against the wall, and fell harmlessly to the ground. He turned on her like a baffled wild beast, and made as though he would have struck her with the pistol.

'Touch her, and you are a dead man!' I exclaimed, and coward as he was, he shrank back into a corner of the dungeon.

'This madman will murder me,' he whined. 'Run, Ann—quick, quick, and fetch your uncle or anybody you can find to help me.'

She turned on him, a white Fury, with green flaming eyes and clenched hands. 'Dog!' she exclaimed, grinding out the word from between her sharp white teeth, 'ask no help from me. I utterly hate and loathe you. I would not lift a finger to save you from the gallows. Do you remember the words you said to me three days ago? If you have forgotten them, I have not; and you thought by such foul lies to deceive me, as you have deceived others! But beware! Your career of vice and crime is nearly at an end.' Then turning to me, she said: 'Here are the keys of your prison; do with them as you will.' She handed me the keys, then turned and went out without another word.

After a few words of warning to Rudyard, who glared at me feebly in reply, but did not speak, I followed her, locking the door behind me, and found her waiting for me at the top of the stairs. 'Take these keys,' I said to her, 'and go up to Mrs Rudyard, and tell her that Philip Burton is waiting here to conduct her to a place of safety.'

While she was gone, I waited at the door of the tower. Can I ever forget the delicious sensations of those few minutes, as I stood gazing on the fast darkening landscape! I was once more a free man, and in those words everything is said.

Presently, Ann Starke came down-stairs, followed by Mrs Rudyard, a thin, frail figure of a woman, with a white sunken face, looking prematurely aged. But for the rare sweet expression in her eyes, I should scarcely have known her again. We each took a hand of the other in silence. 'You are come to take me away from this terrible place, are you not, Philip? I ask no questions—I desire nothing but to quit this spot and die elsewhere in peace!'

How my heart ached as I gazed upon her! Two young lives had been shattered—two loving hearts had been torn asunder, and all to what purpose? The answer was before me.

She took hold of my arm, Ann supported her on the other side; and walking slowly, we came after a time to the door in the boundary wall, of which Ann possessed the key; and so, after crossing a field or two on the other side, we found ourselves on the high-road.

The question was, what ought our next step to be? A sudden thought struck me. There was nothing to fear from Mr Rudyard for a little while; there might be much to fear from Aaron Starke. Turning to the girl, I said: 'Where is your uncle?'

'He's gone with Mr Tyson to Berryfield Fair, and he won't be back till late,' was the answer; and it eased my mind wonderfully.

'Now, Ann,' I said, 'you must devise some means by which Mrs Rudyard can be got away at once to the nearest railway station.'

'Oh! there's no difficulty about that,' she replied. 'There's Dapple in the stable, and there's uncle's old shandrydan in the barn, which will hold three comfortably. The nearest railway station is only nine miles away.'

Here was comforting news.

'You are going with us, Ann?' I said.

'I daren't stay here, that's certain,' she answered simply. 'My uncle would half kill me, when he found out what I had done. But come up to the cottage, while I get a few things ready and leave the keys,' she added. 'Mrs Rudyard can sit down while I get the shandrydan ready. There is not a soul about; they are all off to the fair.'

A quarter of an hour later, the shandrydan, a nondescript country vehicle, was in readiness. Ann had deposited among the straw at the bottom a small corded box containing some of her worldly belongings. Like all north-country girls, she possessed a profusion of warm wraps and shawls, and she was as anxious as I was that Mrs Rudyard should be well protected from the keen autumn breezes.

By Ann's advice, we took a byroad which debouched into the main road about three miles farther on. In order to reach this road, we were compelled to drive past the old tower. Ann's eyes met mine as we skirted a corner of the boundary wall, and at the same moment I felt a shudder run through Catherine. She and I had set eyes on those cruel old walls for the last time.

We reached the railway station without adventure, and sent the shandrydan back under care of a porter. My first duty was to despatch a telegram to Mrs Staveley, asking her to meet us at a certain hotel in London as early as possible the following day. Mrs Staveley's house was within a few miles of Isterby Manor; and in the state of Catherine's health, I did not deem it advisable to take her at once back to a neighbourhood fraught to her with so many painful recollections; besides which, Mr Rudyard in one of his mad fits might choose to go in search of his wife, and Mrs Staveley's house was one of the first places he would be likely to visit. In London, Catherine would at least be safe from his violence.

Before noon next day, Mrs Staveley had the satisfaction of embracing her long-lost niece.

But little more remains to be told. We never heard whether Rudyard made any efforts to trace his wife, nor did we care to inquire.

Mrs Staveley took a pretty little furnished house in the suburbs of London, and there Catherine went to live with her aunt. She had a long illness, during which she was faithfully nursed by Ann; it was nature's reaction after all she had suffered and gone through during those terrible weeks in Dunleap Tower; but when at length it left her, it left her stronger and better in health than she had been for years, more especially when she found that her husband seemed to have no intention of molesting her. But not for long had she any need to start and tremble whenever a louder ring than ordinary came to the door. Little more than six months after our escape, Mr Rudyard, in one of his mad

gallops, was thrown from his horse, and died within twenty-four hours. His affairs were found to be hopelessly involved. Isterby Manor and Dunleap Tower were brought to the hammer. To the surprise of every one, except a few who were in the secret, the whole of the mortgages on the latter estate were found to be in the hands of Aaron Starke; and, as his niece had prophesied, Aaron is now the squire of Dunleap. Aun went back to live with him after Rudyard's death; and as it is not likely that her uncle will ever marry, she is already regarded as his heiress in prospective.

It was a mystery to me at the time, and it has been a mystery ever since, why Aaron Starke should have allowed himself so readily to become Mr Rudyard's tool, in the latter's illegal dealings both with his wife and myself. He was too crafty a man not to have some strong motive for acting as he did. What that motive was, is best known to himself.

I had made up my mind to return to Australia as soon as I had seen Catherine safely domiciled with her aunt; but just at this time, through Mrs Staveley's influence, I received the offer of a situation which made it worth my while to remain in England; and in England I am likely to remain.

I have nothing to add, except that the eyes which are looking over my shoulder as I pen these last lines are those of my first and only love—those of Catherine my wife. The past is not forgotten by us, nor can it ever be; but Time has brought healing on its wings; and it may be that the memory of bygone trials serves but to heighten the happiness of the present, and while life is spared us, will but render more indissoluble the bonds of the future.

THE MONTH:

SCIENCE AND ARTS.

Sir Peter Lumsden's interesting paper on his experiences in Afghanistan, read before the Royal Geographical Society, contains an account of the curious lake upon which the Tekke Turcomans are dependent for their supplies of salt. This lake is six miles square, is situated at an elevation of about fourteen hundred feet above the sea-level, and is surrounded on all sides by a steep precipitous descent. The yield of salt is practically unlimited, for the bed of the lake is one solid mass of level rock-salt, covered only by an inch or two of water, the depth of the deposit being unknown. A second lake furnishes the Saryks of Penj-deh with salt. This lake is much larger than the one just described, and the salt in it does not present such a smooth unbroken surface. The salt is dug out in the form of flakes about four inches in thickness, which are packed into bags, and carried on camels to market without any kind of preparation.

A recent number of the *Amateur Photographer* contains a letter from Captain Peters—dated from Quebec—who has just returned from the rebellion in the Canadian north-west. He tells how, throughout the campaign, he carried on his saddle a small photographic camera, of which he made so good a use that he secured sixty good negatives. These included about a dozen taken during the battles of Batoche and Fish Creek. He remarks, with justifiable pride: 'I do not think that any photographer has yet accomplished a picture under fire; one of mine was taken during a volley from the rebels' pits about one hundred and fifty yards distant.' There are certainly few men who would have the nerve to go through the somewhat delicate manipulations involved in taking a photograph with death almost staring them in the face. Captain Peters is likely for a long time to enjoy the distinction of being the only one who has accomplished such a feat.

The work of the wandering photographer is constantly being rendered more easy by the ingenuity of instrument-makers; but the last move in this direction possibly marks the beginning of a revolution in the art. Relinquishing glass for the negative image, the Eastman Dry-plate Company have introduced a system of coating paper with the necessary sensitised gelatine. This paper is supplied in rolls several feet long, which fit into a specially contrived dark slide for insertion in the back of the photographic camera. By means of a winding-key, like that of a clock, the paper roll is unwound from one reel and wound upon another at the other side of the dark slide. In this way, pictures can be taken by exposing in the camera successive portions of the paper until the supply is exhausted. The paper strip is afterwards cut into sections so as to separate the pictures, which are developed in the usual way, and subsequently, by simple treatment, rendered as transparent as a negative on glass. The chief advantages of the system are—the lightness of the material used as compared with glass, the impossibility of breakage, and the very small space in which a number of negatives thus prepared can be stored. The entire process is shown in operation at 13 Soho Square, London.

A new kind of lighthouse is being constructed at the Colwell Iron-works, United States, which is destined for the Delaware Breakwater. It is composed of cast-iron plates riveted together, weighing collectively two hundred tons, and presenting, when put together, a tapering tower eighty feet high. The circumference of the structure is at the base sixty-six feet, and at the top fifty-four feet. This iron casing will be taken piecemeal to the concrete foundations prepared for it, and after erection, will receive a solid lining of brickwork. This novel plan of construction is claimed to be effective, expeditious, and very cheap.

The chief Director of the Norwegian fisheries has made some curious observations upon the height to which a salmon can leap in order to clear a waterfall which bars its progress upstream. It would seem that the most favourable condition for a good jump is the presence of a deep pool immediately below the fall, in which case a salmon has been known to rise perpendicularly to a height of sixteen feet. Such high leaps are not common, yet they have occurred upon one Norwegian river, where masts have been planted below a fall for the purpose of actual measurement. The same observer states that on more than one occasion a fish failing to clear the fall at one bound, has been seen to remain in the falling water a foot or two below

the top, and then, with a rapid twitch of the tail, to accomplish its purpose. This only happens when the fish succeeds in striking the falling water straight with its snout. If it strikes obliquely, it is immediately carried down to the pool below.

We have much pleasure in calling attention to a new material which is intended more particularly for the clothing of those who risk their lives on the water. It has been invented by Mr William Jackson of London, and it consists of cotton, silk, or woollen fabrics interwoven with cork cut into the thinnest shreds imaginable. The material was lately submitted to a severe test. Three persons who could not swim were dressed in clothing made of it: one as a naval officer, the second in boating costume, and the third in ordinary lady's attire. The three were then unceremoniously thrown into the sea from the end of Ryde pier, with the result that they floated without difficulty and without any kind of exertion on their part. We may mention that machinery has been contrived that will cut the cork into shreds as thin as paper or linen.

Messrs Brown and Porter, of Liverpool, have patented a very clever contrivance to enable workmen to ascend tall chimneys and similar high structures quite independently of scaffolding. It consists of a staging which grasps the chimney, and which, by the turn of a wheel, ascends it by a spiral movement. In the case of a circular chimney, the staging is triangular in shape, and can be tightened as it rises, so as to adapt itself to the reduced circumference of the structure towards the top. The parts of the staging which actually touch the brickwork are three rollers set at an angle, and it is by turning one of these that the contrivance is made to creep up the structure. The staging for square chimneys is still more simple. It consists of two frames, one depending from the other, either of which can be firmly bolted to the chimney. On the lower one is a gallery for workmen to stand upon. Its mode of progression up the chimney is somewhat like that of a leech, one frame being fastened, while the other creeps up to it by means of screws. Then the first one is released, and, after the second is bolted to the chimney, is raised to a higher level. By this step-by-step motion, the staging is made gradually to ascend to any height required.

A new method of ventilating ships has been suggested by an Australian inventor. Pipes are made to extend from the various places that require ventilation, to the furnace in the engine-room. The furnace-doors are made to fit very tightly, so that no air can reach the fuel except through these ventilation pipes. Powerful suction is in this way established, and all foul air is drawn off into the furnace, while fresh air is made to take its place through orifices provided for the purpose. The plan is only applicable to steamships, unless in other cases a special furnace be employed.

The necessary plant for lighting the Low Moor Colliery by electricity is now being prepared, and the whole of the apparatus is to be erected at the bottom of the pit. Permanent wires are being fixed along the principal roadways from the shaft to the extreme end of the workings, while branch wires—which are movable, so that the miners can shift the lamps from place to place as they work—extend on either side into the several workings. The lamps used are of the incandescent form, inclosed in a stout glass globe, which is further protected on the outside by wirework. A small switch in connection with each lamp will allow the workman to reduce or increase the amount of light at pleasure. The system has already been tried experimentally, and gives every sign that when established permanently, it will prove a success.

Mr Thomas Burt, M.P., in addressing an audience of colliers at Barnsley the other day, maintained that an explosion in a colliery should be followed by a searching inquiry by experienced men, such as always follows a railway disaster. He reminded his hearers that they had other perils to guard against besides the risk of explosion, and told them of the great danger of omitting to support the roof of the workings with a sufficiency of props and stays. He stated that the number of lives lost during the past thirty years as a result of insufficient timbering was nearly double that due to explosions of fire-damp.

Engineering states that last year four thousand five hundred tons of borax were produced in the States of California and Nevada, and that the supply can never fail, because as fast as the deposits are removed, they are renewed. Many new uses for this substance have been found since it has become so plentiful. A few years back, it was used in the United States almost solely as a flux in welding iron. Now it is employed in glazing iron and pottery, for softening water, in the manufacture of soap, and lastly, as a preservative for meat.

In factories, warehouses, theatres, and other large establishments where it is considered desirable to employ night-watchmen or firemen, it has long been customary to place tell-tale clocks in different parts of the building, which show whether or not the watchers have regularly gone their rounds every hour throughout the night. Dr Millar, of Bethnal House Asylum, has contrived a clock of very simple design which accomplishes this work with great accuracy. The axle for the hour-hand carries a paper disc instead of the usual hand, and the whole arrangement is contained in a strong box. In the lid of this box is a hole just large enough to admit a pencil; and it is the duty of the night attendant in passing a station where one of these clocks is placed to insert a pencil into the hole and give it a twist, so that it leaves a mark on the disc of paper slowly travelling below. The next morning an inspection of the paper will show how many times the spot was visited and at what hours. By using differently coloured pencils and slightly shifting the paper disc, records for a whole week can easily be made on one piece of paper. More than one hundred clocks on this principle are already in use at different asylums in this country.

A new form of torpedo has lately been tried with some success in the United States. It consists of an iron tube measuring sixteen inches in diameter and forty-two inches in length, containing, besides its explosive, a charge of rocket composition. It is fired from another tube, which gives it initial direction in its course.

In practice it is found that it will attain a velocity through the water of ten feet per second, and that it will preserve a straight course even when contending with a swift current. It is obvious that such a weapon may prove quite as efficient as the complicated torpedoes in present use, whilst its cost must be very moderate in comparison with them.

Those who have visited any large engineering works will know that rivets for iron-work, instead of being hammered into position as of old, are now pressed into place by a mighty squeeze from a pair of huge jaws worked by hydraulic power. The same plan is being adopted for riveting up the plates and girders at the Charing Cross Railway Bridge Extension Works, London. But the novel part of this adaptation of the system is that the hydraulic power is borrowed of the London Hydraulic-power Company, whose mains now traverse all the important thoroughfares of the city. The near dwellers to the bridge will have reason to thank this Company for relieving them of the incessant din which night and day usually accompanies iron-bridge construction.

A method of making sheet-lead which presents some novel features has been patented in Germany. The apparatus employed consists of an iron box called a receiver, the bottom of which is movable, and can be raised from beneath by an hydraulic ram. This box corresponds in length with the width of the sheet of lead to be made. At the top is a pair of jaws running the whole length of the box, the opening between which can be adjusted so as to form a slit of any desired size, such size agreeing with the thickness of the sheet-lead in course of manufacture. The operations are as follows. The receiver is filled with molten lead, which is allowed to cool down to a semi-plastic state. In the meantime the jaws are brought to the required distance from one another. The hydraulic ram is now put into motion, and the bottom of the box slowly rises, forcing the soft metal through the jaws in the form of a compact sheet. We may mention that the old method of making sheet-lead is to roll out a mass of the metal until it is reduced to the required thickness.

Some months ago, we adverted to the system which has been introduced by the New York Steam-heating Company of warming houses by steam supplied by pipes from a central station. The system also comprises the feeding of all kinds of stationary steam-engines, which are thus rendered independent of separate boiler-power. It is now proposed to extend the steam-pipes to dry-goods stores, so that they may act as fire-extinguishers. The plan proposed is to establish stand-pipes in each building, with big nozzles opening on to the separate floors. The steam could at any time be turned on from the street, and would, it is said, quickly drive out the air from the place and smother an incipient conflagration. The proposal to use steam for the purpose of putting out fires is by no means a new one, and possibly it has never been tried on a practical scale, because the necessary apparatus was not easy to find. But in New York, where the pipes and boiler are all ready to hand, we may look forward to some experimental trials of the system, from which much good may accrue.

A rival to india-rubber and gutta-percha, which is enthusiastically described by an American firm as 'the best gum in the world,' has been found in the dried milk of the bullet-tree (*Mimusops globosa*). This gum, which is commonly known as Balata, seems to possess all the advantages of india-rubber and gutta-percha without the intractable nature of the one or the friability of the other. It is now regularly collected in British Guiana, and has for some time been exported as a superior kind of gutta-percha.

Professor Poleck has demonstrated by recent experiments that dry-rot increases in rapidity according to the amount of potassium and phosphoric acid which is contained in the wood where it occurs. Wood felled in the spring is rich in both these constituents, and in such wood the professor has found no difficulty in cultivating dry-rot spores. But winter-felled trees contain much less both of the acid and the potassium, and the cultivation of the spores in wood from such trees has been found quite impossible. The experiments also show that the spores require a certain definite time for full development.

The government astronomer of Hong-kong has published an account of the phenomena which precede typhoons. The first signs are feathery clouds in the sky of the cirrus type, looking like fine tufts of white wool, and which travel from east to north. These appearances are accompanied by a slight rise of the barometer, clear weather, heat, and light winds. The barometer then begins to fall; the heat becomes oppressive; there is a swell on the sea, and the sky assumes a threatening appearance. As the storm approaches, these effects become more marked, while the wind gradually increases in force. Near the centre of the storm, the wind blows with such violence that no canvas can hold against it, and the rain pours down in torrents. Still nearer the centre, the sea is lashed into such fury that this is the most dangerous position for ships. Typhoons are most common during September and August, but they are met with all the year round.

According to the American papers, the researches which Professor S. A. Forbes, of the Illinois State College, has instituted into the cause of the terrible mortality recently prevailing among fresh-water fish in some parts of the American continent have been rewarded with complete success. The Report he has just submitted on the subject shows that the disease is due to a minute spherical microbe or germ whose diameter is only about the 1-25,000th part of an inch. This germ he discovered in the liver and kidneys of the diseased fish. There it forms abscesses, which ultimately destroy the cells of those organs, and therewith the life of the fish. Professor Forbes says that there are various species of this germ, the different varieties of which cause specific diseases, such as fevers, and especially smallpox, chicken-pox, hog-cholera, and so forth. The case which more particularly prompted him to undertake this investigation was the extraordinary mortality among the perch and other fish of Lake Mendota, Wisconsin, where the fish have for some time past been dying in enormous numbers.

Central American advices give details of the eruption of the volcano of Cotopaxi, which

occurred early on the morning of the 23d of July. Cotopaxi, in the eastern chain of the Andes, is the highest active volcano in the world, its height being about nineteen thousand five hundred feet. It is also distinguished for its symmetrical figure, being almost a perfect cone. The *Nacion* of Guayaquil states that about one o'clock in the morning people were awakened by loud reports as if from artillery. The explosions followed one another with wonderful rapidity, sometimes causing a continuous roar, shaking the earth and causing the windows and the doors of the houses to rattle. A telegram from Chimbo to Guayaquil states that in that city, situated almost at the foot of the volcano, there was what the residents along the river Yana-Yacu call an aluvion. The phenomenon which these people understand by 'aluvion' is really the stream of lava which descends the mountain sides, melting the snow with which it is covered, and pouring down a tremendous mass of lava, mud, stones, and all obstacles encountered in its progress. Investigation during the day showed that the shocks produced by the explosions during the night were exceedingly heavy. The smoke hung like a pall over the face of the country, and the steady fall of ashes thrown constantly out of the terrible crater intensified the darkness. Accounts from Latacunga state that the eruption began with a terrible storm. The damage done was considerable, but the number of victims is not known. A similar catastrophe occurred in June 1877.

The recurrence of exceedingly low prices for Cheviot wools has directed attention to the extreme fluctuations which have occurred in the value of this staple commodity—a commodity of so much importance to the sheep-farmers of Scotland. It is probable that no article of constant and general consumption has been subject to such wide fluctuations in money value. Cheviot wools have not been at such low value as at this time since the year 1849, when they were quoted as low in some instances as 6¾d. per lb. In 1847 the prices were 8½d. and 8¾d., and fell to the lowest point in 1849, when it sank to 6¾d. It rose for the next four years, and in 1853 was at 1s. 4d., and again fell to 1s. 1d. in 1855. In 1860 it was up again to 1s. 8½d. In 1865 it rose to 2s. 3d., but in 1870 was back again to 1s. 4d. From this was a sudden and extraordinary rise to 2s. 6d. in 1872, at which rate a number of the best Border Cheviot clips were sold. From 1872 the prices have receded with varying fluctuations, until they have reached their present low rate of about 8¾d. per lb.

Now that the existence of Ambulance Societies has made more widely known the use of surgical appliances, it may not be out of place to notice two inventions that have recently been patented, and which promise to be of utility in the event of accidents. The first is an invention of Messrs John H. Peck & Co., Wigan, noticed in detail under our Occasional Notes, and consists of a stretcher made entirely of steel, with adjustable head-rest and removable cover. It is large enough to carry one man, and weighs under thirty pounds. The other invention is by Whittles & Co., of Lozells, Birmingham. It is a pocket ambulance, termed the Nyd Case, containing articles suitable for the immediate dressing of wounds or stanching of blood, such as plaster, bandages, tape, safety and surgical pins, as also a bottle of ammonia for venomous bites. These articles are all in a small metal case which can be carried in the vest pocket, and must be of great use to bicyclists, anglers, &c.

RECENT PATENTS.

ROWING WITH ONE'S FACE TO THE BOW OF THE BOAT.

Few exercises are more popular than that of rowing, and there are many enthusiastic oarsmen who would scout the idea that there are any conditions of their favourite pursuit susceptible of improvement. To those, however, less biased by strong predilection, it may have occurred that inasmuch as an oarsman is obliged under present conditions to sit with his face turned in the opposite direction to that in which the boat he propels is proceeding, he is confronted with what can only be regarded as a disadvantage. Of course, as it will be urged, a boat can be steered by the helmsman; but, as a matter of fact, when it is picking its way among a lot of craft, or has to pass a companion boat in a narrow part of a river, the circumstance that the rudder is under skilful management will not do away with the necessity for the oarsman constantly to turn round to regulate his speed, see whether he must 'ship' his sculls, &c. Thus the inventor, in devising a pair of sculls which permit of the user keeping his face turned in the direction of the boat's course, has not directed his energy into an altogether useless channel; and we may congratulate Messrs Spong and Company, of 226 High Holborn, London, that it has fallen to them to bring before the public the patent 'Face to Bow' Rowing Appliance.

The rowlock, a small metal apparatus, is clamped to the gunwale by means of thumbscrews which work from the inside. It has two semicircular uprights, which stand at right angles to the gunwale, and these have each a perforation. The scull consists of two lengths of wood, one comprising the blade and a portion of the stem, and the other comprising the remainder of the stem. Where the juncture takes place there is a mechanical contrivance, which represents the very heart of the invention. Firmly attached, by means of a metal socket, respectively to each portion of the scull are two stout cog-wheels. These two wheels are brought into immediate proximity—being centred upon rods fixed to a common groundwork—and act one upon the other. The complete scull is placed upon the rowlock, between the two semicircular uprights; and a stout metal rod is inserted in the perforation on the one side. This rod, passing through a boring in the metal groundwork upon which the two cog-wheels revolve, reappears outside the perforation on the other side, and is made fast by a descending pin.

The oarsman takes his seat in the boat facing the bow, grasps the scull-handles in his hands, and, as in ordinary rowing, pulls them towards him. The cog-wheels upon the shorter lengths of the sculls revolving in one direction, cause the cog-wheels on the longer lengths of the sculls to revolve in the opposite direction; and thus the course taken by that part of the

scull touching the water is the reverse to the course taken by that part which is in the oarsman's hands. The boat is thus propelled. By means of the simple arrangement of a spring, the sculls are made to 'feather;' though it is satisfactory to know that as they will not do so when a short stroke is taken, it is the easiest thing possible to 'back-water.' If—as when rowing in tolerably rough water—it is the wish of the operator that the scull should not 'feather' at all under any circumstances, he can attain his desire by merely unscrewing a small steel plate. The new sculls can be applied, we are told, to any boats; and among the advantages claimed for them, as against the ordinary appliances, is a quicker recovery, a longer and more powerful stroke, an absence from noise, the impossibility of 'catching crabs,' and facility of 'shipping.' The mechanical fittings are made of gun-metal and malleable iron, and consequently possess considerable strength. The future success of the apparatus will, however, entirely depend upon its being found to be *practically* available.

A BOTTLE FIRE-EXTINGUISHER.

Public attention has recently been drawn to the possibilities which are now making themselves manifest of extinguishing fire by the application of chemicals whose properties are antagonistic to combustion. Especial prominence has been given to the Harden Hand Grenade, the utility of which has been established by practical experience. Messrs Spong have brought out a 'hand fire-extinguishing ball,' which, being made of india-rubber, does not, like the glass grenade, require to be forcibly broken before its properties can be brought into direct contact with a fire. But the invention of this firm which, from its novelty and utility, deserves to be specially described, is their 'Ever-ready' self-acting Fire-extinguisher. This is a new departure, and takes the form of a glass bottle charged with a chemical liquid. By means of a simple device, the lifting of a slide causes a thin stream of the liquid to be propelled with considerable force from the vessel, and this stream can be aimed in any direction at pleasure, even to a distance of thirty or forty feet. Only a limited quantity need be used at a time—the residue suffering no deterioration from keeping; and thus one charging of the bottle will prove sufficient to extinguish more than one small conflagration; while it is confidently asserted that a very severe fire can be put out with the contents of two or three bottles. The price of the article is six shillings, and it can be recharged any number of times by an outlay of one shilling. The recharges are put up in two small bottles, where they can be kept for years, uninjured by climate. It is impossible, it appears, for the bottle to burst, as the hole which is punctured in its side acts as a safety-valve. It is manufactured, too, to bear double the pressure it will actually be called upon to endure.

A RAPID BOOT-CLEANING MACHINE.

Our present mode of cleaning boots is a very long and laborious one, and anything which can be devised to simplify it will meet with a warm welcome at the hands of hundreds of servants and mistresses. An invention has recently been brought before the public which goes far in the required direction, and is certainly deserving of a wide patronage. Its mechanism is exceedingly simple. From a stout metal upright which has to be screwed down to a firm ground-work, such as a table or bench, project at an angle two arms. At the terminations of these arms there are perpendicular borings, and through these borings run metal rods, at whose extremities are attached upper and lower wheels. The right-hand upper wheel is supplied with a handle by which it can be revolved; while its edge is grooved. The left-hand upper wheel—which is superficially smaller than its companion on the right hand—has its top surface covered by a circular brush, and has also a grooved edge. A band passes round these two wheels, and therefore, when one revolves, the other revolves in harmony. Then, too, when one of these two upper wheels moves, the corresponding lower one is set in motion simultaneously, as both are fixed to the same axle. Thus, when the upper right-hand wheel is revolved by means of its handle, the remaining three wheels revolve too. It now remains for us to explain in what manner this simultaneous quadruple rotation is utilised for the purpose of cleaning boots. We have said that on the upper left-hand wheel a small brush is placed; and the reader has now to learn that brushes, considerably larger superficially, are also placed on the two lower wheels. The right hand of these two brushes has hard bristles, and is devoted to the work of removing mud from the boot; while the left-hand brush is of a softer bristle, and is intended to do the polishing. The blacking is spread upon the boot by the small upper brush. In operating, the handle is turned by the right hand; and the left hand holds the boot and applies it to the three brushes. By means of the machine, it is found that, after a little practice, any person can clean boots and shoes in one-fourth of the time occupied by the usual method. It is quite clear, too, that many other advantages belong to the invention; though it is but fair to name one small drawback. When the article is in use and the boot is applied to the brush carrying the blacking, it cannot but happen that small specks of that liquid will fly off and bespatter the operator. This is a disadvantage, and should be obviated in future manufacture, either by the erection of a screen in front of the wheel in question, or by its re-adjustment. The invention is called the 'Rapid' Boot-cleaning Machine, and is brought out by the General Agency Company, 9 New Oxford Street, London.

A SIMPLE FORM OF DISINFECTOR.

A means has been devised whereby, at a very small cost and with no personal trouble, the drains, traps, and other sanitary appliances of a house can be continuously disinfected; and thus a barrier is made to block the channel through which deadly infectious diseases so frequently enter our homes. A cylindrical body is suspended in or placed at the bottom of the cistern, where for a year it can remain without being interfered with in any way, performing its function perfectly automatically. This cylindrical

body is called by the manufacturers—Messrs Sharp & Co., of 11 Holborn Circus, London—Austin's Patent 'Porous' Disinfector, and consists merely of a case of a porous material in which a crystal disinfectant is hermetically sealed. The action of the water dissolves the crystals, and the solution, permeating the pores of the case, exercises its sanitary influence upon the successive fillings of the cistern. Thus, with every flush of water, the drains of a house are disinfected with a fluid which it may be stated is inodorous, non-poisonous, and non-corrosive.

A PORTABLE RAILWAY.

A patent has been taken out for a railroad which can be laid down and taken up with astonishing ease and despatch. The elaborate processes usually entailed in the construction of a line—the setting down of 'sleepers,' the fixing on of iron sockets to receive the rails, and the final attachment of these rails—are by this new system done away with, and an arrangement adopted by which certain lengths of parallel rails fixed across iron 'sleepers' are turned out of the manufactory complete, and requiring merely to be laid consecutively along the course of the intended line. The fact that this railway can be easily laid and relaid without suffering any injury, promises for it a future of great utility in commercial enterprise and military operations. Recently, three miles of this 'portable railway' were shipped for Afghanistan. The consignment included one hundred yards of curved lengths, twelve complete sets of points and crossings, ten 'turn-tables'—contrivances by which engines can be revolved and their heads reversed—and all other necessary accessories. The rails weighed twelve pounds per yard, and were of an eighteen-inch gauge; while the wagons which were constructed to carry from twelve to fifteen hundredweight each, were fitted with cast-iron wheels, and were much admired for their strength and finish.

The firm of engineers responsible for the 'portable railway'—Messrs Kerr, Stuart, & Company—have constructed examples of it in South Africa, Australia, the West Indies, South America, and other parts of the world. It is, we should think, calculated to be of considerable use on sugar, cotton, and other plantations, on farms and brickfields, in collieries and mines, and about docks, harbours, &c. It is claimed that the iron are stronger and more durable than the wooden 'sleepers.' A correct gauge being insured on the 'portable railway,' one of the most fruitful causes of accident does not exist. The arrangement by which the lengths of railroad are attached one with another is of the simplest character.

CARBONIC ACID GAS AS A MOTIVE-POWER.

Carbonic acid gas is a force so very powerful, that, until recently, no means have been contrived by which it could be brought sufficiently under control to be of practical use. Many have been the attempts made to drive engines by the gas; but as yet no successful results have been made public. Nevertheless, an advance has been made by the invention of machinery which will sufficiently control the gas to enable the operators to lift enormous weights, such as houses, blocks of stone, &c. It is not unlikely that the invention will be used on the Rhine Railway, the level of which is to be raised several feet. The large stone-built station-houses will, it is said, be lifted bodily to a height of seven or eight feet by means of carbonic acid pressure. The ordinary carbonic acid gas can, by machinery, be condensed five hundred volumes into one, and then stored and handled freely in cylinders of wrought-iron. The pressure is about six hundred pounds to the square inch, at a temperature of thirty-two degrees Fahrenheit. By heating, a pressure of eighteen thousand pounds, it is said, has been obtained. There is no doubt that this invention can be applied to many and varied purposes.

OCCASIONAL NOTES.

LIGHTHOUSE ILLUMINANTS.

After twelve months of experiments in all kinds of weather at the South Foreland, the Trinity House Committee have made their report upon the relative merits of electricity, oil, and gas as lighthouse illuminants. After weighing carefully the evidence given by photometrists and eye observers, and taking into account the questions of effectiveness, economy, and convenience as affecting each lighting system, the Committee thus sum up their opinion with regard to the relative merits of electricity, gas, and oil as lighthouse illuminants:

(1) That the electric light as exhibited in the A experimental tower at South Foreland has proved to be the most powerful light under all conditions of weather, and to have the greatest penetrative power in fog. (2) That for all practical purposes the gas light as exemplified by Mr Wigham's multiform system in B experimental tower, and the oil light as exemplified by the Trinity House Douglass six-wick burners in multiform arrangement up to triform in C experimental tower, when shown through revolving lenses, are equal, light for light, in all conditions of weather; but that quadriform gas is a little better than triform oil. (3) That when shown through fixed lenses as arranged in the experimental towers, the superiority of the superposed gas light is unquestionable. The larger diameter of the gas flames, and the lights being much nearer to each other in the gas lantern, give the beam a more compact and intense appearance than that issuing from the more widely separated oil burners. (4) That for lighthouse illumination with gas the Douglass patent gas-burners are much more efficient and economical than the Wigham gas-burners. (5) That for the ordinary necessities of lighthouse illumination mineral oil is the most suitable and economical illuminant, and that for salient headlands, important landfalls, and places where a very powerful light is required, electricity offers the greatest advantages.

Every publicity was given to the trials; the report stating that many members of scientific societies, especially those connected with engineering, had been invited and had visited the station. The French Lighthouse Department, who have given much kind assistance in obtaining observations, sent their representatives to view the arrangements. Germany, Denmark, Norway and

Sweden, Russia, Italy, Spain, Brazil, the United States, and Canada have all deputed officers to visit the station, and in showing them the various details, suggestions have been in each case invited for assisting in the completeness and insuring the impartiality of the trial.

A NEW AMBULANCE.

Much attention has recently been given to ambulances, and inventors have been very busy in this direction; but it is doubtful whether they will be able to improve on the stretcher exhibited by Messrs J. H. Peck & Company, manufacturers, Wigan, among their other exhibits at the Royal Agricultural Show, Preston. It was shown suspended from two wooden bars representing the sides of a cart; spiral springs attached to straps, two on either side of the stretcher, support it, and prevent all jarring and jolting, however rough the road. Side-rods are made of angle steel, one inch by one and a quarter inch by one-eighth of an inch, lightened where possible. The crossbars, which close up, are carried from leg to leg—which are six inches long—and are a simple and ingenious contrivance much resembling a field-gate; and the four legs are kept in position by two drop-hinges. To permit of a sufferer lying full length on ambulance in pit-cage, the handles are made to drop with their own weight; and when not in use—for rapid transit to scene of accident or for storage—the whole doubles up to five feet nine inches by three inches by four inches. The head-rest is adjustable to various heights, and the feet may be raised above the head in case of hemorrhage. The cover is removable for cleansing; and the sufferer lies in contact with canvas only, the crossbars being much below and beyond all possibility of touching. There is much ingenious simplicity in this apparatus; in fact a boy of thirteen can erect and explain the same; and, judging from all precedents, Messrs J. H. Peck & Company may be congratulated on having met a long-felt want in a thoroughly efficient manner at a merely nominal cost. It is suggested that this contrivance should be of special use in collieries; for, in the first instance, the expense is small; while it folds up so as to be packed away in diminutive proportions when not in use; while it affords ready means of conveying an injured workman with freedom from painful jolts and friction. This excellent stretcher should find a wide application in all works, mills, factories, &c., as well as in hospitals, for police use, &c.

PHOTOGRAPHS OF GUN INTERIORS.

Experiments were recently made at the Royal Gun Factories, Woolwich, in order to test the application of a new electric lamp designed for making examinations and photos of gun interiors. The system of scrutinising the bores of guns by means of electricity has been only a short time in vogue, and has proved of great value; but the want of an electric dynamo has prevented its general adoption at many places where it would have been of considerable use; and the authorities have now taken up readily a portable battery, designed by Messrs Johnson and Phillips, for the purpose of supplying the place of a dynamo in such cases. The battery, without being necessarily powerful, is chiefly serviceable on account of its constancy, as it can maintain a light of unerring brilliancy for a period of ten hours if requisite, and thus enable the examiners to make their inspection with all the leisure they may desire. The experiment made was to try the battery and a dynamo in competition. Two eight-inch guns were placed side by side in the new boring-mills, and photos were taken of their interiors by both processes, the results, as far as could be judged by a cursory view, being equally satisfactory. In future, it may be expected that reports of damaged guns sent in from distant stations will be accompanied by photographs, both internal and external.

THE WOODLAND GRAVE.

No sacred monumental urn,
Nor vaunted funereal praise,
Here lures the passer-by to turn
With mute and reverential gaze.

No cypress throws quaint shadows here
Upon some sculptured marble tomb,
Where rests some one to memory dear,
Amidst the churchyard's solemn gloom.

But in some unfrequented glade,
Where fragrant flowers bloom and die,
And where, beneath the wood's deep shade,
In wild profusion ferns lie;

Where bluebells, with the golden furze,
The wild-rose, and the daffodil,
With ivy, moss, and countless burrs,
Lie scattered o'er the verdant hill;

Beside some cool sequestered stream,
Shaded from the stormy weather,
Where the sun's last lingering gleam
Fades upon the mountain heather—

There, where the moss is soft and green,
With meadow-sweet and cowslips too,
And fairest snowdrops may be seen
Weeping in the morning dew;

And where the skylark's evening song
Comes floating on the perfumed breeze,
And woodland music, all day long,
Lingers in the murmuring trees—

Just there, beneath that laurel's shade,
Where moss and ivy deck the ground,
The truest, kindest friend is laid—
My noble, faithful, trusty hound.

A. M. CARADOC.

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